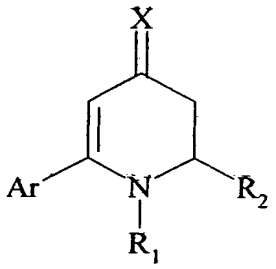
CLAIMS

1. Compounds of formula (I):



(I)

wherein:

- R_1 represents a hydrogen atom or an aryl(C_1-C_6)alkyl group in which the alkyl moiety may be linear or branched, a linear or branched (C_1-C_6)alkyl group, a linear or branched (C_1-C_6)acyl group, a linear or branched (C_1-C_6)alkoxycarbonyl group, an aryl(C_1-C_6)-alkoxycarbonyl group in which the alkoxy moiety may be linear or branched, or a trifluoroacetyl group,

- R_2 represents a linear or branched (C_1-C_6)alkyl group,

- X represents an oxygen atom or NOR_3 wherein:
  - R_3 represents a hydrogen atom or a linear or branched (C_1-C_6)alkyl group optionally substituted by one or more identical or different groups selected from hydroxy, amino (optionally substituted by one or two linear or branched (C_1-C_6)-alkyl groups) and linear or branched (C_1-C_6)alkoxy,

- Ar represents an aryl group or a heteroaryl group,

their enantiomers, diastereoisomers and also addition salts thereof with a pharmaceutically acceptable acid,

it being understood that aryl is understood to be a phenyl, biphenyl, naphthyl or tetrahydronaphthyl group, each of those groups being optionally substituted by one or more identical or different groups selected from halogen, linear or branched (C_1-C_6)alkyl, hydroxy, linear or branched (C_1-C_6)alkoxy, trihalomethyl, nitro and amino (optionally substituted by one or more linear or branched (C_1-C_6)alkyl groups),

and a heteroaryl group is understood to be an aromatic, mono- or bi-cyclic, 5- to 12-membered group containing one, two or three hetero atoms selected from oxygen, nitrogen and sulphur, it being understood that the heteroaryl group may be optionally substituted by one or more identical or different groups selected from halogen, linear or branched (C_1-C_6)alkyl, hydroxy, linear or branched (C_1-C_6)alkoxy, trihalomethyl, nitro and amino (optionally substituted by one or more linear or branched (C_1-C_6)alkyl groups).

2. Compounds of formula (I) according to claim 1, characterised in that X represents an oxygen atom, their enantiomers, diastereoisomers and also addition salts thereof with a pharmaceutically acceptable acid.

3. Compounds of formula (I) according to either claim 1 or claim 2, characterised in that R_1 represents a hydrogen atom or a linear or branched (C_1-C_6)alkoxycarbonyl group, their enantiomers, diastereoisomers and also addition salts thereof with a pharmaceutically acceptable acid.

4. Compounds of formula (I) according to any one of claims 1 to 3, characterised in that Ar represents an optionally substituted phenyl group, their enantiomers, diastereoisomers and also addition salts thereof with a pharmaceutically acceptable acid.

5. Compounds of formula (I) according to any one of claims 1 to 3, characterised in that Ar represents a substituted phenyl group, their enantiomers, diastereoisomers and also addition salts thereof with a pharmaceutically acceptable acid.

6. Compounds of formula (I) according to any one of claims 1 to 3, characterised in that Ar represents an optionally substituted thienyl group or an optionally substituted pyridyl group, their enantiomers, diastereoisomers and also addition salts thereof with a pharmaceutically acceptable acid.

7. Compounds of formula (I) according to claim 1 which are:

- tert-butyl 2-methyl-4-oxo-6-(2-thienyl)-3,4-dihydro-1(2*H*)-pyridinecarboxylate
- 2-methyl-6-(2-thienyl)-2,3-dihydro-4(1*H*)-pyridone
- tert-butyl 2-methyl-4-oxo-6-phenyl-3,4-dihydro-1(2*H*)-pyridinecarboxylate
- 2-methyl-6-phenyl-2,3-dihydro-4(1*H*)-pyridone
- tert-butyl 6-(3-chlorophenyl)-2-methyl-4-oxo-3,4-dihydro-1(2*H*)-pyridine-carboxylate
- 6-(3-chlorophenyl)-2-methyl-2,3-dihydro-4(1*H*)-pyridone
- tert-butyl 6-(6-chloro-3-pyridyl)-2-methyl-4-oxo-3,4-dihydro-1(2*H*)-pyridine-carboxylate
- 6-(6-chloro-3-pyridyl)-2-methyl-2,3-dihydro-4(1*H*)-pyridone

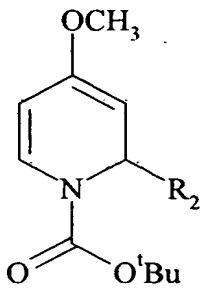
their enantiomers, diastereoisomers and also addition salts thereof with a pharmaceutically acceptable acid.

8. Process for the preparation of compounds of formula (I), characterised in that 4-methoxypyridine is reacted in succession with phenyl chloroformate, with an organomagnesium compound of formula (II):

$$R_2MgBr \qquad (II)$$

wherein R_2 is as defined for formula (I),

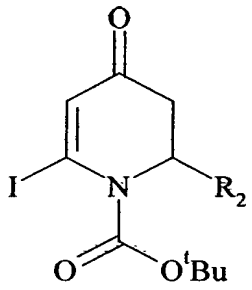
and with potassium tert-butoxide to yield a compound of formula (III):



(III)

wherein R_2 is as defined hereinbefore,

which compound of formula (III) is reacted with butyllithium and with iodine to yield an iodated compound of formula (IV):



(IV)

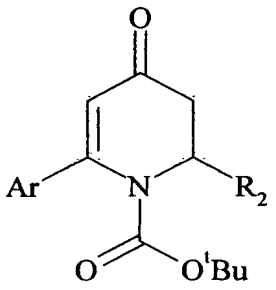
wherein R_2 is as defined hereinbefore,

which compound of formula (IV) is reacted, in the presence of tetrakis(triphenylphosphine)palladium(0), with a boronic acid of formula (V):

$$ArB(OH)_2 \qquad (V)$$

wherein Ar is as defined for formula (I),

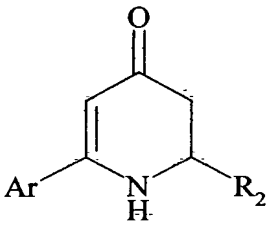
to yield a compound of formula (I/a), which is a particular case of the compounds of formula (I):



(I/a)

wherein Ar and R_2 are as defined hereinbefore,

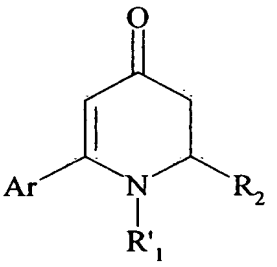
in which compound of formula (I/a) the amine function is optionally deprotected according to conventional techniques of organic synthesis to yield a compound of formula (I/b), which is a particular case of the compounds of formula (I):



(I/b)

wherein R_2 and Ar are as defined hereinbefore,

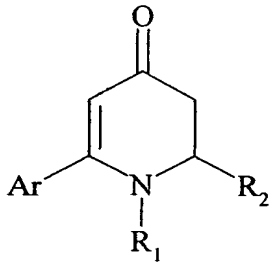
which compound of formula (I/b) is optionally reacted with a compound of the formula R'_1Y wherein R'_1 represents an aryl(C_1-C_6)alkyl group in which the alkyl moiety may be linear or branched, a linear or branched (C_1-C_6)alkyl group, a linear or branched (C_1-C_6)acyl group, a linear or branched (C_1-C_6)alkoxycarbonyl group, an aryl(C_1-C_6)-alkoxycarbonyl group in which the alkoxy moiety may be linear or branched, or a trifluoroacetyl group, and Y represents a leaving group, to yield a compound of formula (I/c), which is a particular case of the compounds of formula (I):



(I/c)

wherein Ar, R'_1 and R_2 are as defined hereinbefore,

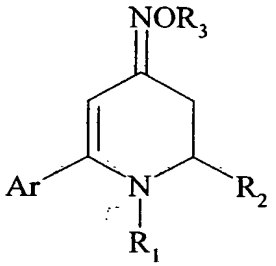
the compounds of formulae (I/b) and (I/c) forming the compounds of formula (I/d):



(I/d)

wherein Ar, R_1 and R_2 are as defined hereinbefore,

which compounds of formula (I/d) are optionally reacted with a compound of the formula $H_2N\text{-}OR_3$ wherein R_3 is as defined for formula (I), to yield a compound of formula (I/e), which is a particular case of the compounds of formula (I):



(I/e)

wherein Ar, R_1, R_2 and R_3 are as defined hereinbefore,

the compounds of formulae (I/a) to (I/e) constituting the totality of the compounds of formula (I), which are purified, where necessary, according to conventional purification techniques, are separated, if desired, into their isomers according to conventional separation techniques and are converted, if desired, into their addition salts with a pharmaceutically acceptable acid.

9. Pharmaceutical compositions comprising as active ingredient at least one compound of formula (I) according to any one of claims 1 to 6, alone or in combination with one or more inert, non-toxic, pharmaceutically acceptable carriers.

10. Pharmaceutical compositions according to claim 9 comprising as active ingredient at least one compound of formula (I) according to any one of claims 1 to 6, for use as a facilitator of memory and cognition.

11. Pharmaceutical compositions according to claim 9 comprising as active ingredient at least one compound of formula (I) according to any one of claims 1 to 6, for use as an antalgic agent.